# Cash Flow Hedge Effectiveness Analytics

A *cash-flow hedge* is defined as "hedging the exposure to variability in expected future cash flows that is attributable to a particular risk. That exposure may be associated with an existing recognized asset or liability (such as all or certain future interest payments on variable-rate debt) or a forecasted transaction (such as a forecasted purchase or sale)

An entity can designate the variability of cashflows such as interest receipts or payments on variable-rate assets or liabilities or a forecasted transaction as the hedged item in a cashflow hedge.

For the already existing recognized assets or liabilities cashflow hedges can be designated only if cashflows of such item/s are linked to floating rates (as opposed to fixed rates). For example, one can hedge on a cashflow-hedging basis cashflows from floating rate mortgages / loans or on floating rate deposits.

It follows that in the case of cashflow hedges it is the floating leg of a swap that is of primary importance for assessing hedge effectiveness (as opposed to the fixed leg of a swap that is of primary importance for fair-value hedge effectiveness).

An entity can also hedge the variability of cashflows related to a forecasted transaction. A "forecasted transaction" is a transaction that is probable of occurring but for which an entity has not entered into a firm commitment. Observable facts and circumstances should support the probability of the transaction occurring.

Four types of risk that can be designated as hedged include:

- Market Price Risk – risk of changes in the entire cashflows of an asset or liability, including both interest-rate risk, default (credit) risk and (if applicable) foreign exchange

- (Benchmark) Interest Rate Risk – risk of changes in the cashflows of the hedged item attributable to changes in the benchmark interest-rate (referred to as interest rate risk)

- Foreign Exchange Risk – risk of changes in the functional-currency-equivalent cashflows attributable to changes in the related foreign currency exchange rates

- Default (Credit) Risk – risk of changes in the cashflows of the hedged item attributable to default, changes in the obligor's creditworthiness, and changes in the spread over the benchmark interest rate with respect to the hedged item's credit sector at inception of the hedge (referred to as credit risk).

Two or more of these risks may be designated simultaneously as being hedged. An entity may not designate separately prepayment risk as the risk being hedged.

The Standard allows an entity to hedge the "benchmark" interest rate risk provided certain conditions are met. For Canadian purposes, for the time being the BA rate represents the allowable benchmark interest rate; in addition, other rates may be considered allowable for benchmark hedging in the future.

In a cashflow hedge of a variable-rate financial asset or liability, either existing or forecasted, the designated risk being hedged cannot be the risk of changes in its cash flows attributable to changes in the specifically identified benchmark interest rate if the cash flows of the hedged transaction are explicitly based on a different index, for example, based on a specific bank's prime rate, which cannot qualify as the benchmark rate.

In summary, the "benchmark" hedging can be identified as such only if both the floating-rate of the swap and the floating index related to a variable-rate asset / liability of which cashflows are hedged represent the same benchmark interest-rate index.

The hedged item is identified as the variability of expected cashflows associated with an existing recognized asset or liability (such as all or certain future interest payments on variable-rate debt) or a forecasted transaction.

The hedged cashflows may derive from a single asset or a liability or a pool / portfolio of similar assets or a pool / portfolio of similar liabilities.

The notional of the swap may differ from the principal amount of the hedged item/s of which projected cashflows are calculated. The hedge designation and documentation will specify the principal amount of the item being hedged.

If the variable cash flows of the forecasted transaction relate to a debt security that is classified as held-to-maturity, the risk being hedged cannot be the risk of changes in its cashflows attributable to interest rate risk. Instead, changes in its cashflows attributable to credit risk, foreign exchange risk or both must be designated as hedged.

For a cashflow hedge that has met the hedge effectiveness criteria, the ineffective portion of cashflow hedges is reported in the P&L to the extent that the cumulative variability of cashflows from the hedged item/s has been overhedged (i.e. changes in projected cashflows of the derivative exceed those of the hedged item/s). In the case of underhedging (i.e. when changes in projected cashflows of the derivative are smaller than those of the hedged item/s), no hedge ineffectiveness is reported in the P&L.

The effective portion of cash-flow hedges (numerically equal to the difference between a change in the fair-value of the derivative and the hedge ineffectiveness reported in the P&L) is recorded in Other Comprehensive Income (OCI). In the case of underhedging, a change in the full fair-value of derivatives is reported in the OCI.

If a cashflow hedge is perfectly effective (projected cashflows of the derivative exactly match projected cashflows of the hedged item at all times) or if underhedging is persistent, the P&L impact related to cash-flow hedge accounting is limited to the gradual reclassification of the fair-value of the derivative recorded in OCI into earnings.

Reference:

https://finpricing.com/lib/EqWarrant.html